SPECIFICATIONS

1. PICTURE TUBE

Size	: 17 inch (Flat Square Tube)
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Transmission	: 46%
Dot Pitch	: 0.27 mm
Face Treatment	: AR-ASC (Anti-Reflection and Anti-Static Coating)
Low Radiation	: TCO-99 (S/W 775E)/ MPR-II (S/W 775N)

2. SIGNAL

2-1. Horizontal & Vertical Sync

1) Input Voltage Level : Low=0~1.2V, High=2.5~5.5V

2) Sync Polarity : Positive or Negative

2-2. Video Input Signal

1) Voltage Level : 0 ~ 0.7 Vp-p

a) Color 0, 0 : 0 Vp-p

b) Color 7, 0 : 0.467 Vp-p

c) Color 15, 0 : 0.7 Vp-p

2) Input Impedance : 75 Ω

3) Video Color : R, G, B Analog

4) Signal Format : Refer to the Timing Chart

2-3. Signal Connector

15-pin D-Sub Connector (Attached Type)

2-4. Scanning Frequency

Horizontal : 30 ~ 70 kHz

Vertical : 50 ~ 160 Hz

3. POWER SUPPLY

3-1. Power Range

AC 100~240V (Free Voltage), 50/60Hz, 2.0A Max.

3-2. Power Consumption

MODE	H/V SYNC	POWER CONSUMPTION	LED COLOR
NORMAL (ON)	ON/ON	less than 105 W	GREEN
STAND-BY	OFF/ON	less than 15 W	ORANGE
SUSPEND	ON/OFF	less than 15 W	
OFF	OFF/OFF	less than 5 W	ORANGE

4. DISPLAY AREA

4-1. Active Video Area :

- Max Image Size - 326.7 x 245.5 mm (12.86" x 9.67")
- Preset Image Size - 310 x 230 mm (12.20" x 9.06")

4-2. Display Color : Full Colors

4-3. Display Resolution : 1280 x 1024 / 60Hz (Non-Interlace)

4-4. Video Bandwidth : 110 MHz

5. ENVIRONMENT

5-1. Operating Temperature: 15°C ~ 30°C (59°F ~ 86°F) (Ambient)

5-2. Relative Humidity : 8%~ 80% (Non-condensing)

5-3. Altitude : 5,000 m

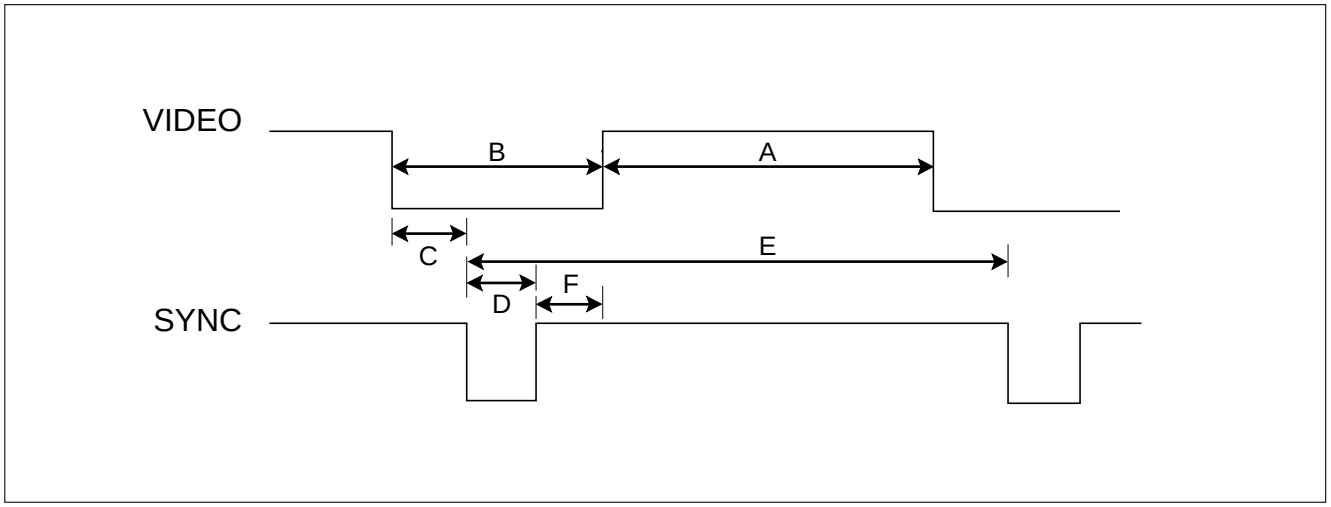
6. DIMENSIONS (with TILT/SWIVEL)

Width	: 410 mm (16.14 inch)
Depth	: 440 mm (17.32 inch)
Height	: 432 mm (17.01 inch)

7. WEIGHT (with TILT/SWIVEL)

Net Weight	: 15.5 kg (34.18 lbs.)
Gross Weight	: 18.5 kg (40.79 lbs.)

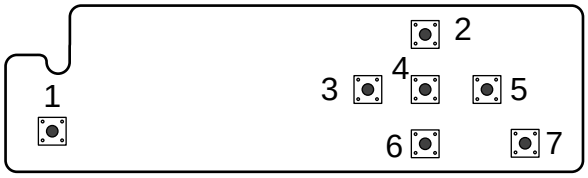
TIMING CHART



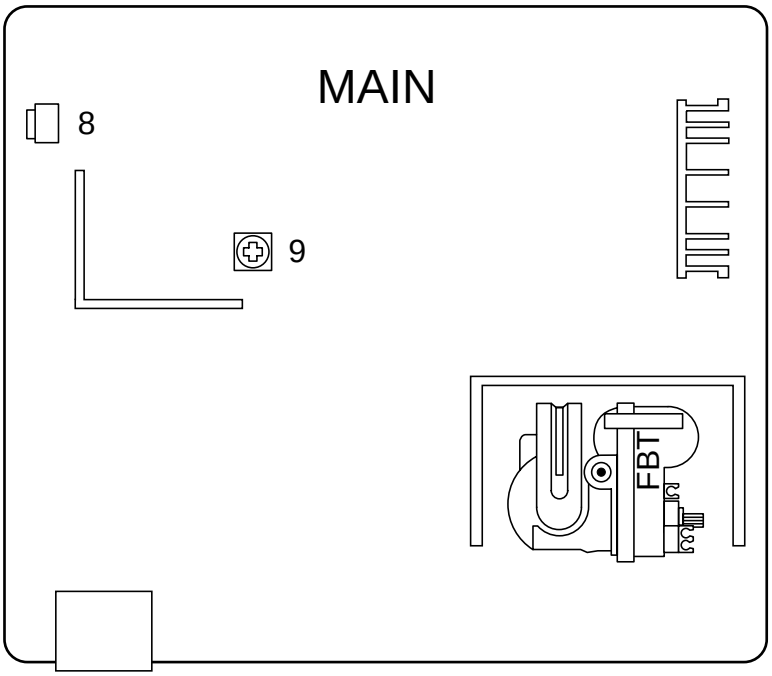
MODE				FACTORY PRESET MODE											
			MARK	MODE 1	MODE 2	MODE 3	MODE 4	MODE 5	MODE 6	MODE 7	MODE 8	MODE 9	MODE 10	MODE 11
HORIZONTAL	Sync Polarity			—	+	+	+	—	—	+	—	—	+	+
	Frequency	kHz		37.50	46.88	53.68	68.677	31.47	31.47	37.88	43.269	49.75	60.02	63.98
	Total Period	µs	E	26.67	21.33	18.63	14.561	31.78	31.78	26.40	23.112	20.10	16.66	15.63
	Video Active Time	µs	A	20.32	16.16	14.22	10.836	25.42	25.42	20.00	17.778	14.52	13.00	11.85
	Blanking Time	µs	B	6.35	5.17	4.41	3.725	6.36	6.36	6.40	5.334	5.58	3.66	3.78
	Front Porch	µs	C	0.51	0.32	0.57	0.508	0.64	0.64	1.00	1.556	0.55	0.20	0.44
	Sync Duration	µs	D	2.03	1.62	1.14	1.016	3.81	3.81	3.20	1.556	1.12	1.22	1.04
	Back Porch	µs	F	3.81	3.23	2.70	2.201	1.91	1.91	2.20	2.222	3.91	2.24	2.30
VERTICAL	Sync Polarity			—	+	+	+	+	—	+	—	—	+	+
	Frequency	Hz		74.99	75.01	85.07	85.00	70.08	59.94	60.32	85.008	74.95	75.03	60.02
	Total Period	ms	E	13.335	13.331	11.775	11.764	14.269	16.684	16.579	11.764	13.407	13.328	16.661
	Video Active Time	ms	A	12.802	12.798	11.178	11.182	12.712	15.254	15.840	11.093	12.542	12.795	16.005
	Blanking Time	ms	B	0.533	0.533	0.577	0.582	1.557	1.430	0.739	0.670	0.865	0.533	0.656
	Front Porch	ms	C	0.026	0.021	0.018	0.014	0.414	0.318	0.026	0.023	0.021	0.017	0.015
	Sync Duration	ms	D	0.080	0.064	0.056	0.044	0063	0.063	0.106	0.069	0.060	0.050	0.047
	Back Porch	ms	F	0.427	0.448	0.503	0.524	1.080	1.049	0.607	0.578	0.784	0.466	0.594
Resolution				**640 x 480 75Hz**	**800 x 600 75Hz**	**800 x 600 85Hz**	**1024 x 768 85Hz**	**640 x 400 70Hz**	**640 x 480 59Hz**	**800 x 600 60Hz**	**640 x 480 85Hz**	**832 x 624 75Hz**	**1024 x 768 75Hz**	**1280 x 1024 60Hz**
Recall				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* Mode 1~Mode 4: Basic Mode (Mode 5~Mode 11: Default Mode)

CONTROL LOCATIONS



CONTROL



NO.	Ref. No.	Control Function	NO.	Ref. No.	Control Function
1	SW207	POWER BUTTON	**6**	SW203	OSD SELECT/ADJUSTMENT(UP)
2	SW205	OSD SELECT/ADJUSTMENT(DOWN)	**7**	SW201	OSD BUTTON
3	SW206	OSD SELECT/ADJUSTMENT(RIGHT)	**8**	VR101	TCO ADJUSTMENT
4	SW204	SET BUTTON	**9**	VR901	B^+ ADJUSTMENT
5	SW202	OSD SELECT/ADJUSTMENT(LEFT)			

ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several adjustments may be required.
Adjustment should be following procedure and after warming up for a minimum of 30 minutes.

- Alignment appliances and tools.
  - IBM compatible PC.
  - Programmable Signal Generator.
    (eg. VG-819 made by Astrodesign Co.)
  - EPROM or EEPROM with saved each mode data.
  - Alignment Adaptor and Software.
  - Digital Voltmeter.
  - White Balance Meter.
  - Luminance Meter.
  - High-voltage Meter.

AUTOMATIC AND MANUAL DEGAUSSING

The degaussing coil is mounted around the CDT so that automatic degaussing when turn on the monitor. But a monitor is moved or faced in a different direction, become poor color purity cause of CDT magnetized, then press DEGAUSS on the OSD menu.

ADJUSTMENT PROCEDURE & METHOD

- Install the cable for adjustment such as Figure 1and run the alignment program on the DOS for IBM compatible PC.
- Set external Brightness and Contrast volume to max position.

1. Adjustment for B^+ Voltage.

1) Display cross hatch pattern at Mode 4.
2) Adjust voltage to 51V±0.5Vdc with **VR901**.

2. Adjustment for High-Voltage.

1) Run alignment program for StudioWorks 775E/ 775N, CB775C on the IBM compatible PC.
2) Display cross hatch pattern at Mode 4.
3) DIST.ADJ→CTRL PWM → High Voltage Command.
4) Adjust High Voltage to 25.5kV±0.1 kVdc.
5) Press Enter Key.

3. Adjustment for Factory Mode (Preset Mode).

1) Display cross hatch pattern at Mode 1.
2) Run alignment program for StudioWorks 775E/, 775N, CB775C on the IBM compatible PC.
3) Power button of the monitor turn off → turn on.
4) COMMAND → START → Y(Yes) command.
5) DIST. ADJ. → CTRL PWM → TILT command.
6) Adjust tilt as arrow keys to be the best condition.
7) DIST. ADJ. → BALANCE command.
8) Adjust balance of side-pincushion as arrow keys to be the best condition.
9) DIST. ADJ. → BALANCE command.
10) Adjust parallelogram as arrow keys to be the best condition.
11) DIST. ADJ. → FOS. ADJ command.
12) Adjust V-SIZE as arrow keys to 230±2mm.
13) Adjust V-POSITION as arrow keys to center of the screen.
14) Adjust H-SIZE as arrow keys to 310±2mm.
15) Adjust H-POSITION as arrow keys to center of the screen.
16) Adjust S-PCC (Side-Pincushion) as arrow keys to be the best condition.
17) Adjust TRAPEZOID as arrow keys to be the best condition.
18) Display from Mode 1 to Mode 4 and repeat above from number 12) to 17).
19) PRESET EXIT → Y (Yes) command.

4. Adjustment for White Balance and Luminance.

1) Set the White Balance Meter.
2) Press the DEGAUSS on the OSD menu for demagnetization of the CDT.
3) COLOR ADJ. → LUMINANCE command of the alignment program.
4) Set Brightness and Contrast to Max and ABL to 200(C8) (decimal) position.
5) Display color 0,0 pattern at Mode 4.
6) COLOR ADJ. → BIAS ADJ. command of the alignment program.
7) Check whether green color or not at R-BIAS and B-BIAS to min position and G-BIAS to 127(7F) to position. Set Sub-Brightness to 70(Decimal). Adjust G2(Screen) command to 0.4± 0.05FL of the raster luminance. Check it's not green color.
8) Adjust R-BIAS and B-BIAS command to x=0.283± 0.005 and y=0.298±0.005 on the White Balance Meter with PC arrow keys.
9) Adjust SUB-Brightness command to 0.4±0.1FL of the raster luminance.
10) PRESET EXIT → Y (Yes) command.
11) Display color 15,0 box pattern (70x70mm) at Mode 4.
12) DRIVE ADJ command.
13) Set SUB-Contrast 70(46) (decimal) position.
14) Set G-DRIVE to 150(96) (decimal) at DRIVE of the alignment program.

15) Adjust R-DRIVE and B-DRIVE command to white balance x=0.283±0.005 and y=0.298±0.005 on the White Balance Meter with PC arrow keys.
16) Adjust SUB-CONTRAST command to 54±2FL of the color 15,0 box pattern (70x70mm) luminance at mode 4 and save in color 1.
17) PRESET EXIT → Y (Yes) command.
18) Display color 15,0 full white patten at Mode 4.
19) COLOR ADJ. → LUMINANCE → ABL command.
20) Adjust ABL to 34±1FL of the luminance.
21) Exit from the program.

5. Adjustment for Focus.

1) Set the Brightness and Contrast to max position.
2) Display H character in full screen at Mode 4.
3) Adjust two Focus control on the FBT that focus should be the best condition.

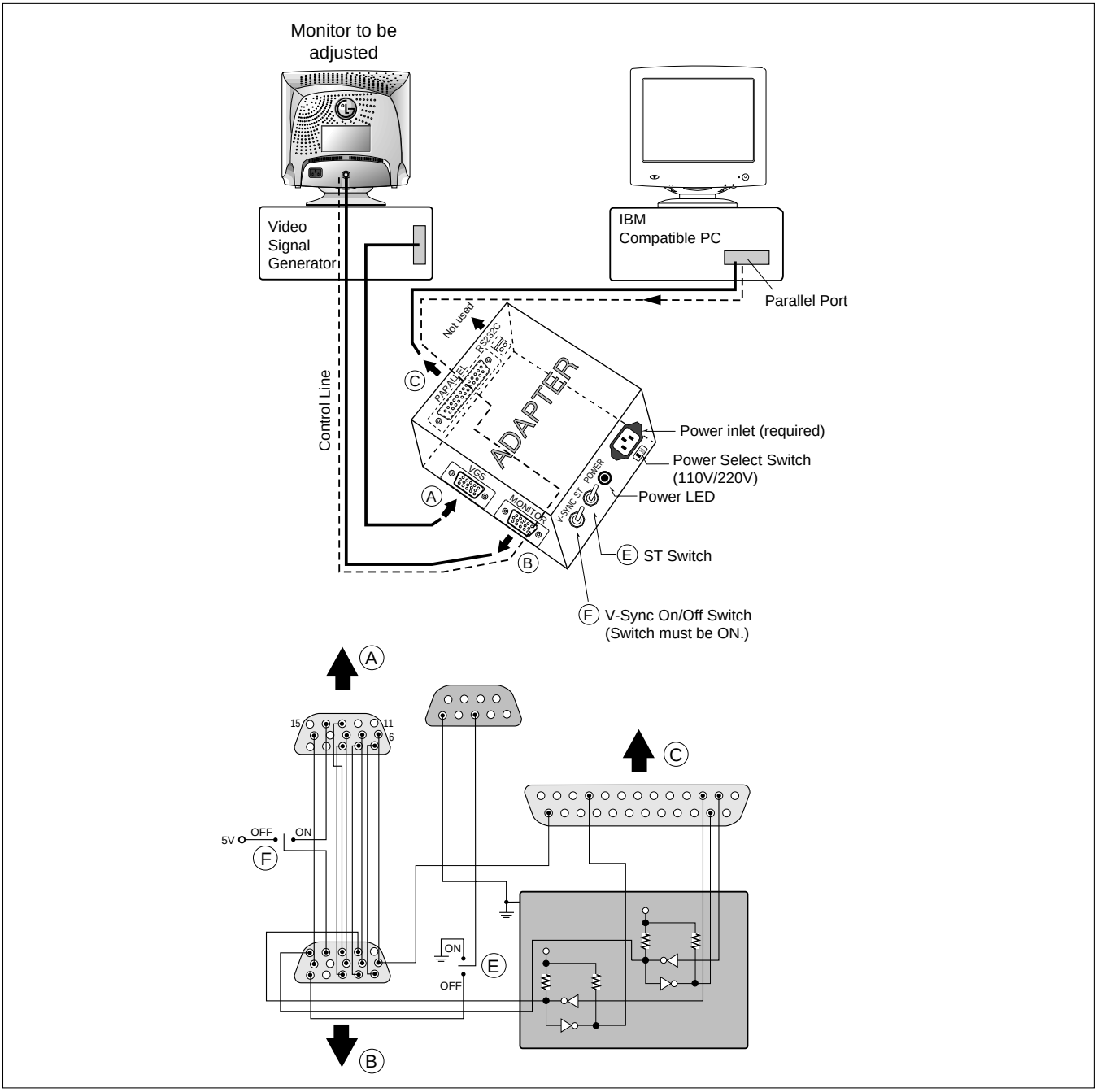
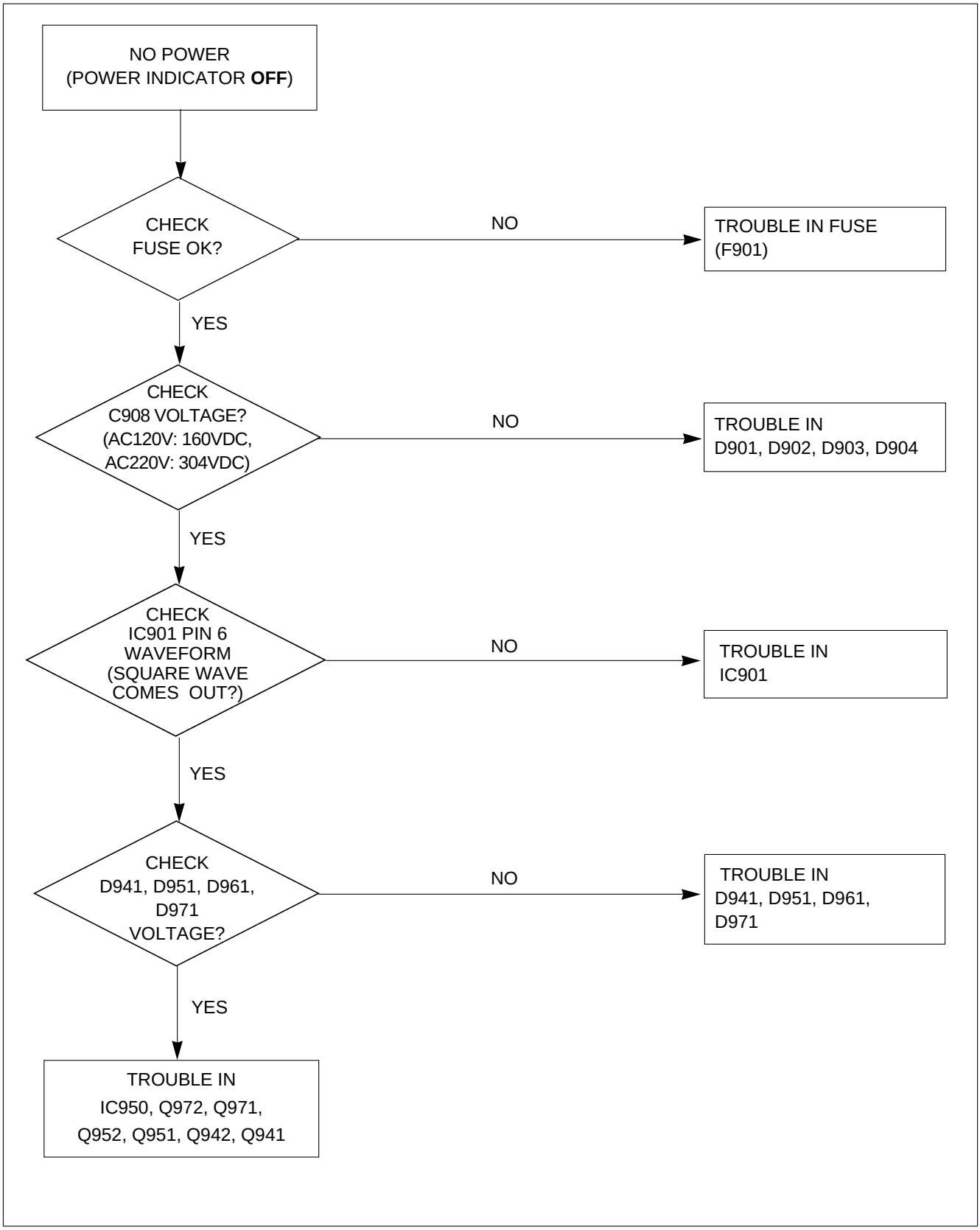


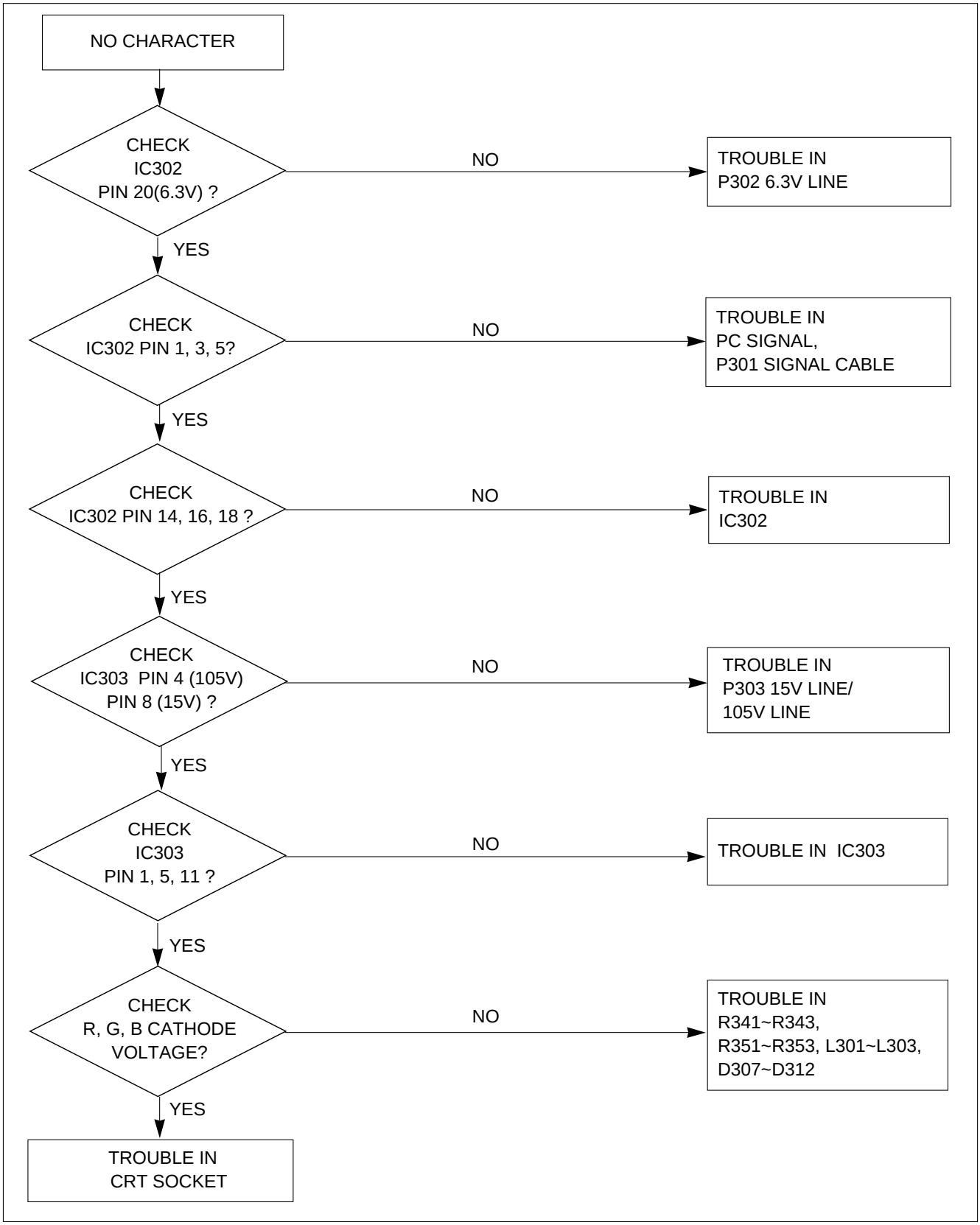
Figure 1. Cable Connection

TROUBLESHOOTING GUIDE

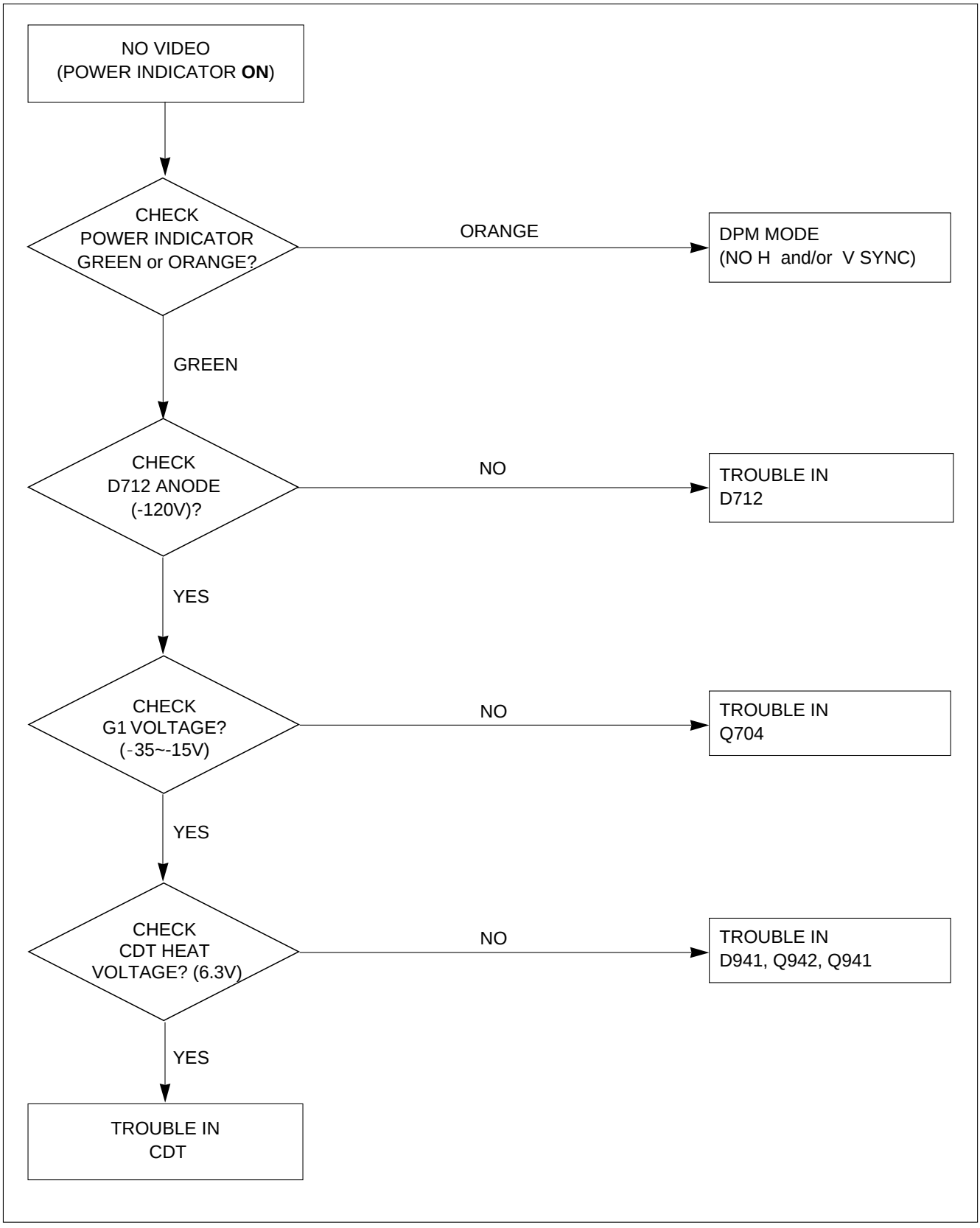
1. NO POWER



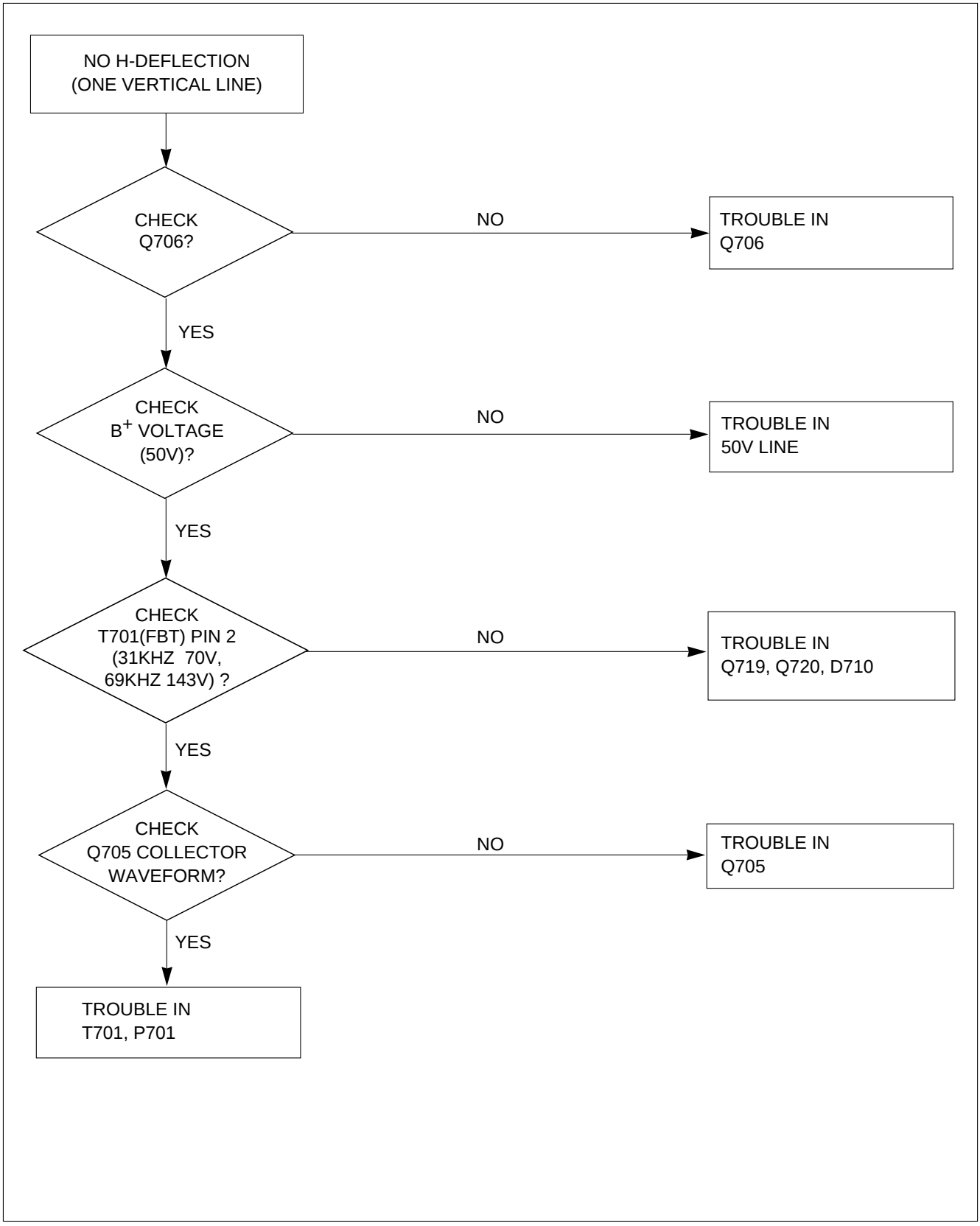
2. NO CHARACTER



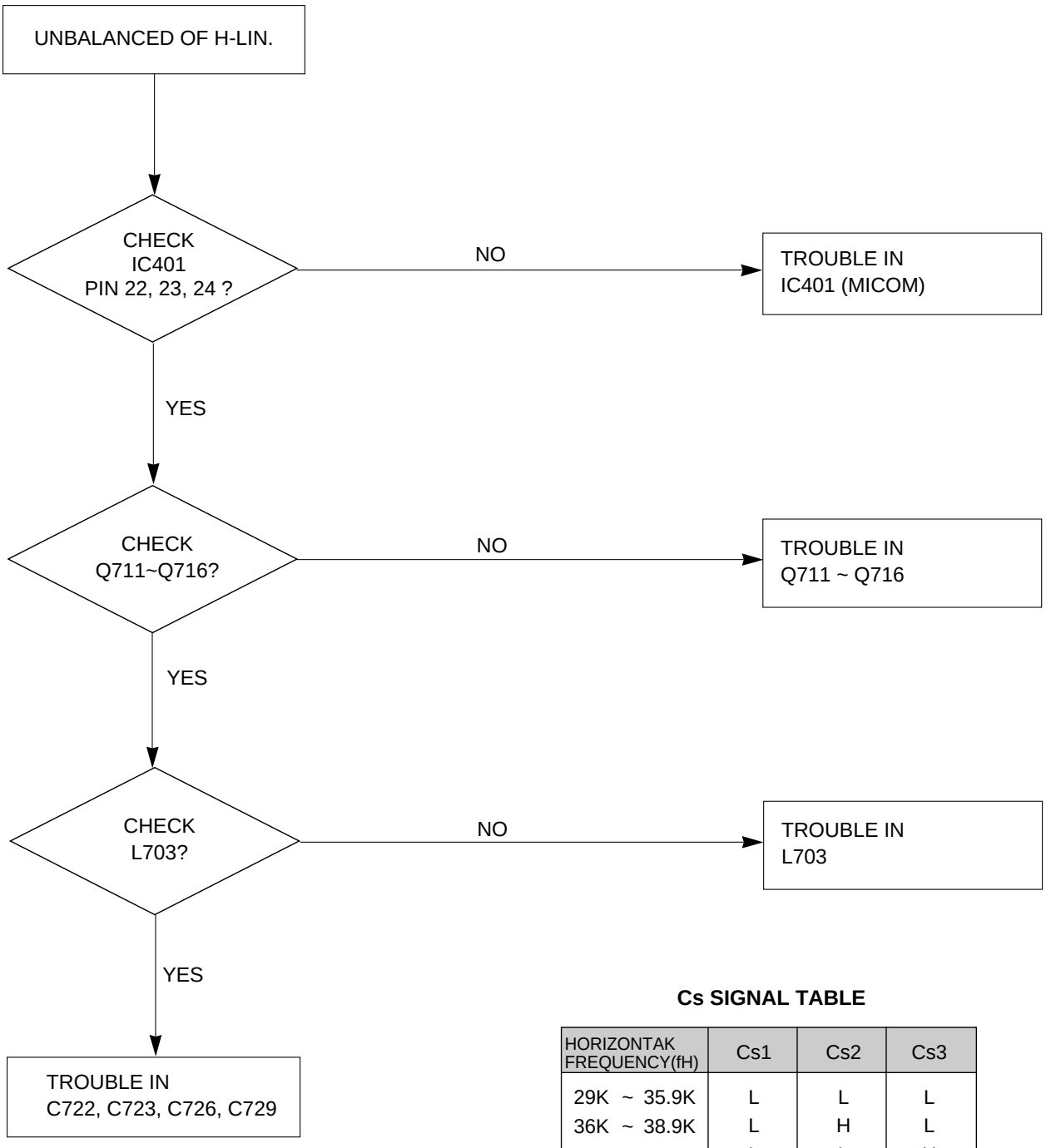
3. NO RASTER


NO VIDEO
(POWER INDICATOR **ON**)
CHECK
POWER INDICATOR
GREEN or ORANGE?
ORANGE
DPM MODE
(NO H and/or V SYNC)
GREEN
CHECK
D712 ANODE
(-120V)?
NO
TROUBLE IN
D712
YES
CHECK
G1 VOLTAGE?
(-35~-15V)
NO
TROUBLE IN
Q704
YES
CHECK
CDT HEAT
VOLTAGE? (6.3V)
NO
TROUBLE IN
D941, Q942, Q941
YES
TROUBLE IN
CDT

4. NO HORIZONTAL DEFLECTION



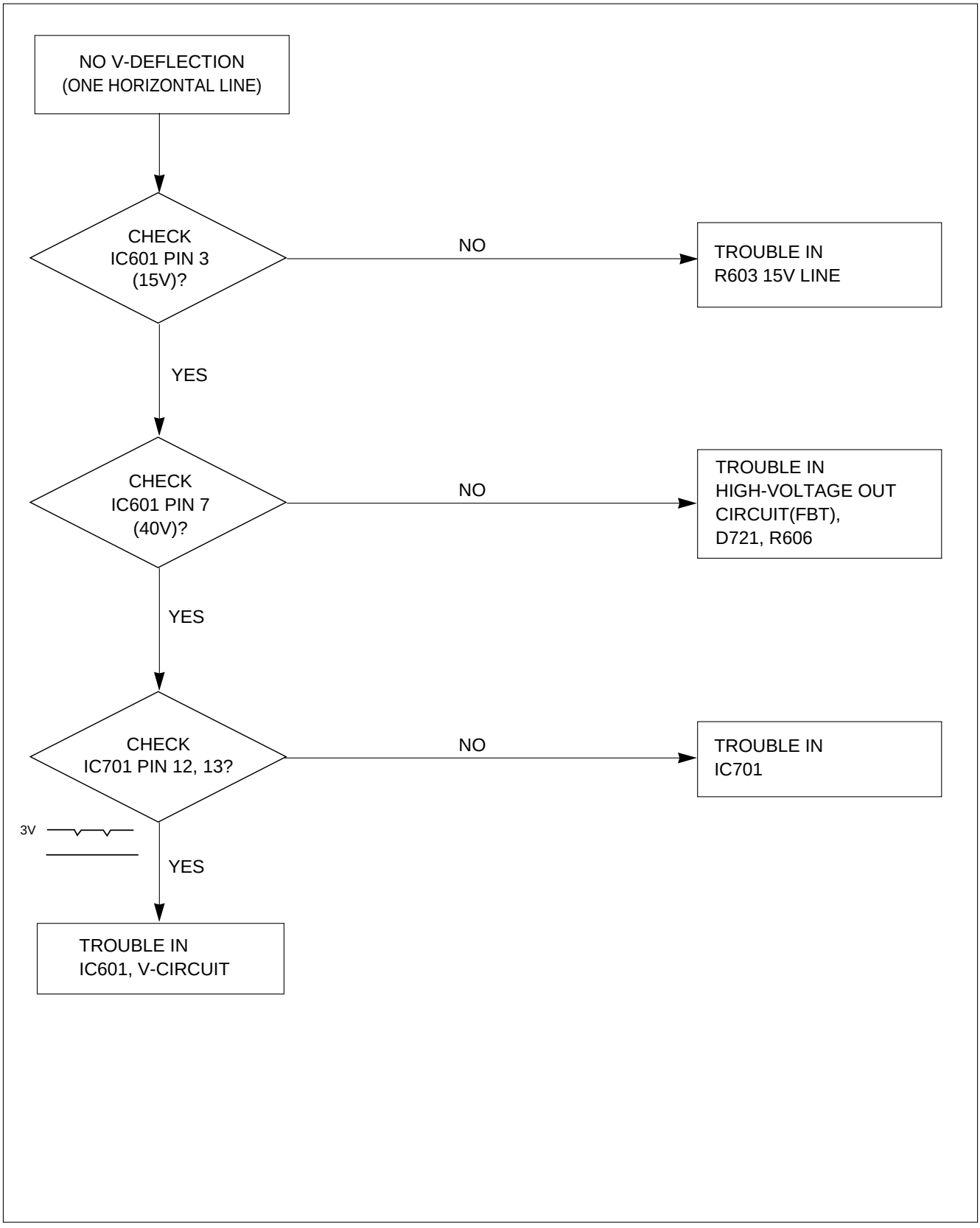
5. TROUBLE IN H-LINEARITY



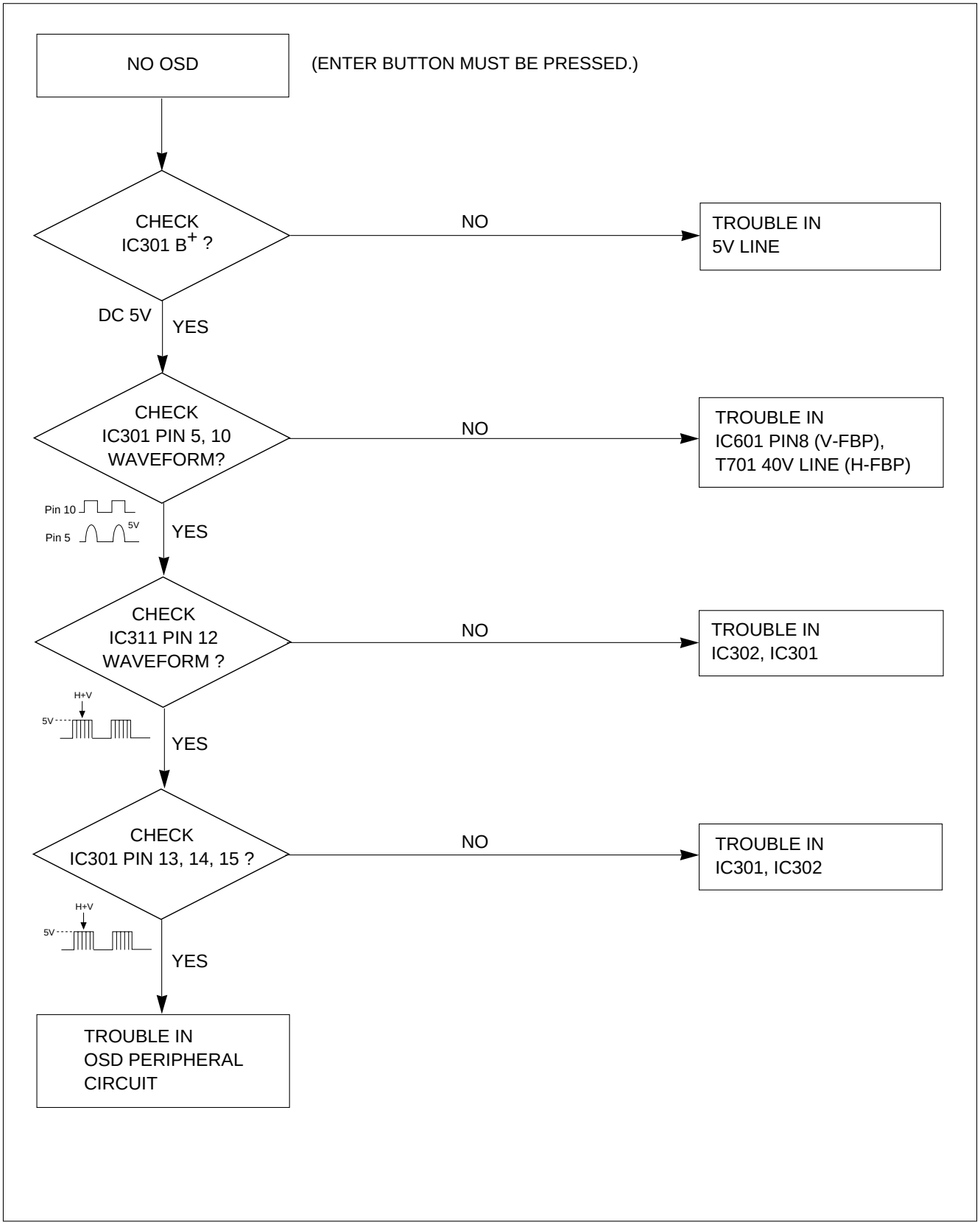
Cs SIGNAL TABLE

HORIZONTAK FREQUENCY(fH)	Cs1	Cs2	Cs3
29K ~ 35.9K	L	L	L
36K ~ 38.9K	L	H	L
39K ~ 47.9K	L	L	H
48K ~ 64.9K	L	H	H
65K ~ 71K	H	H	H

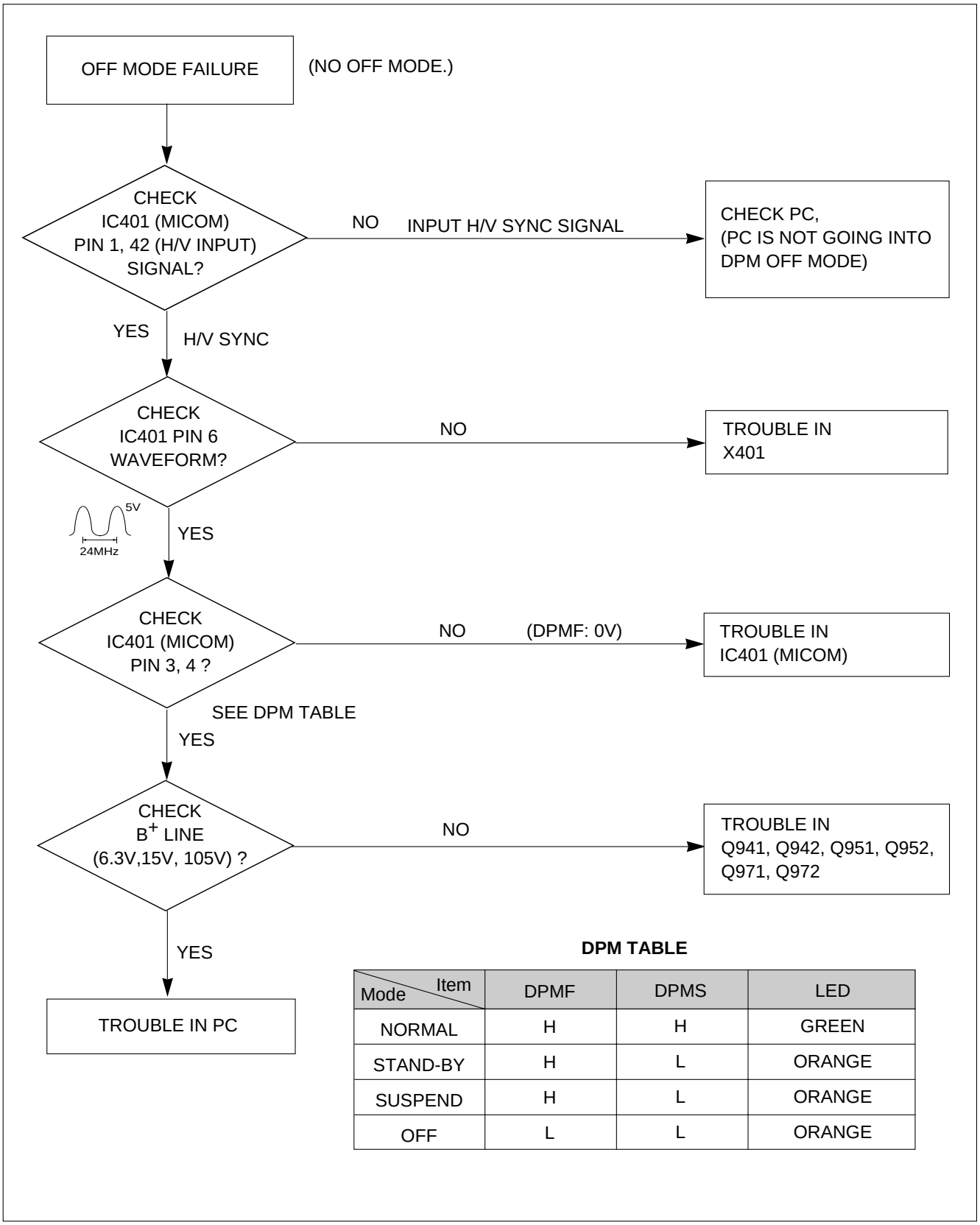
6. NO VERTICAL DEFLECTION



7. TROUBLE IN OSD



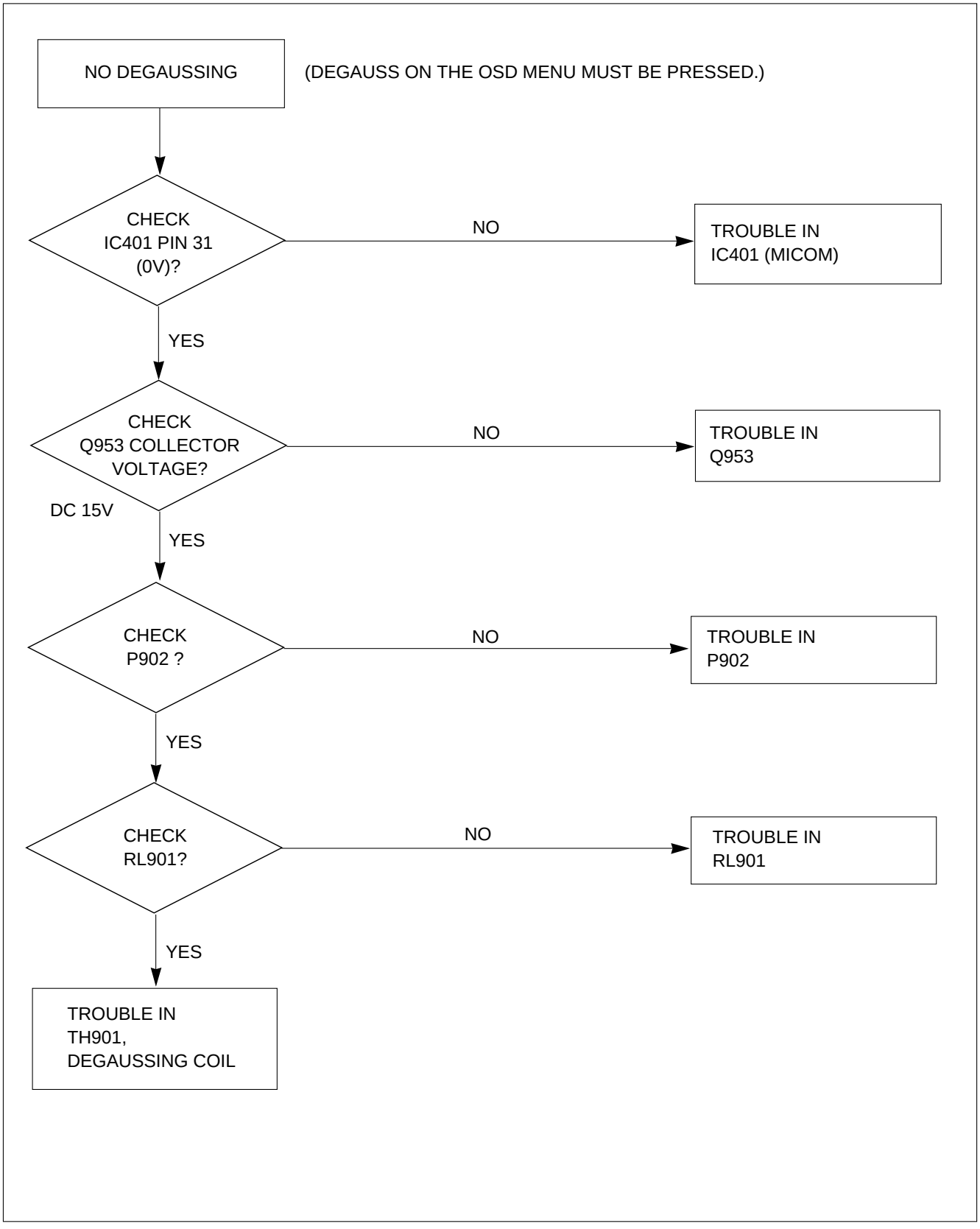
8. TROUBLE IN DPM



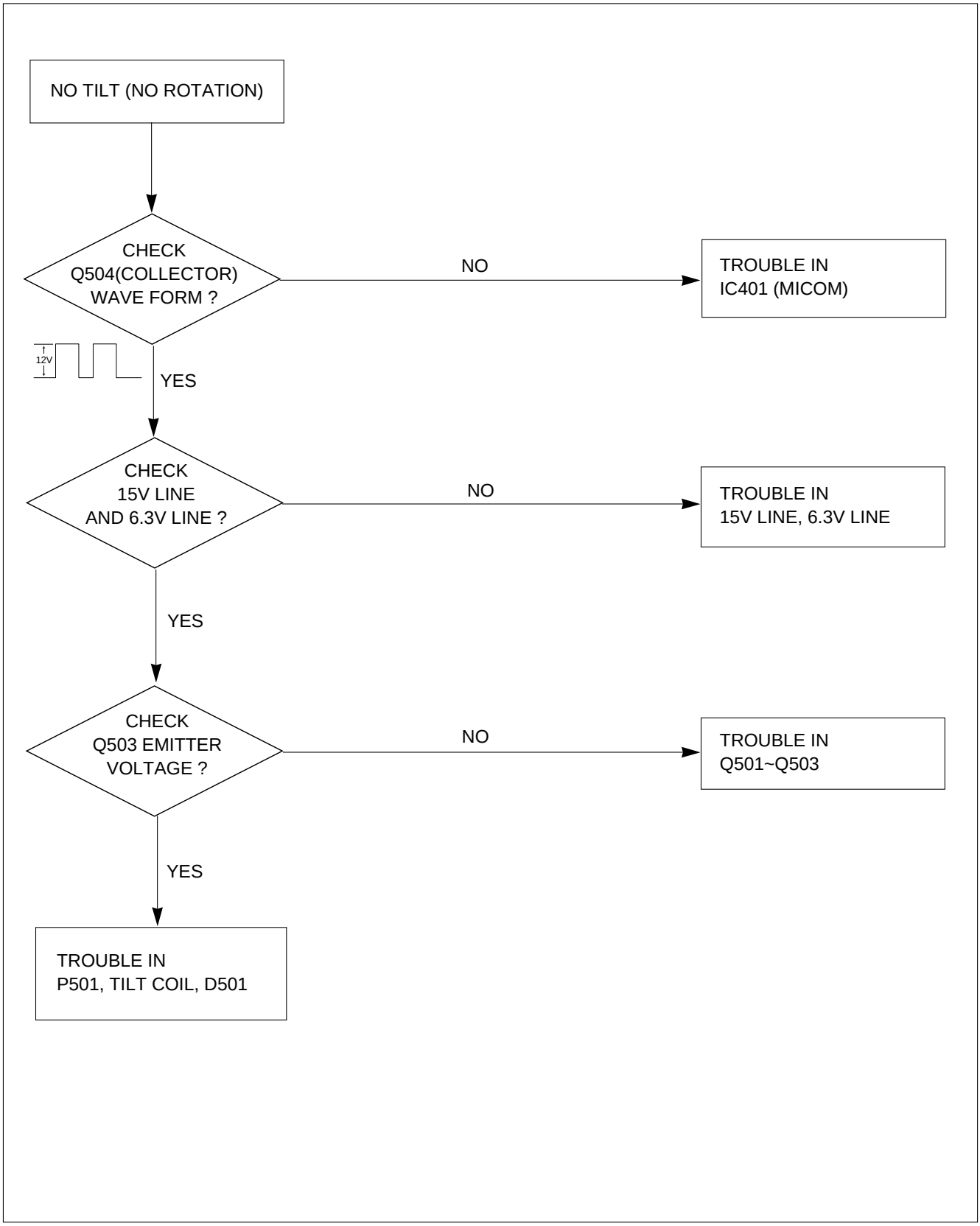
DPM TABLE

Mode \ Item	DPMF	DPMS	LED
NORMAL	H	H	GREEN
STAND-BY	H	L	ORANGE
SUSPEND	H	L	ORANGE
OFF	L	L	ORANGE

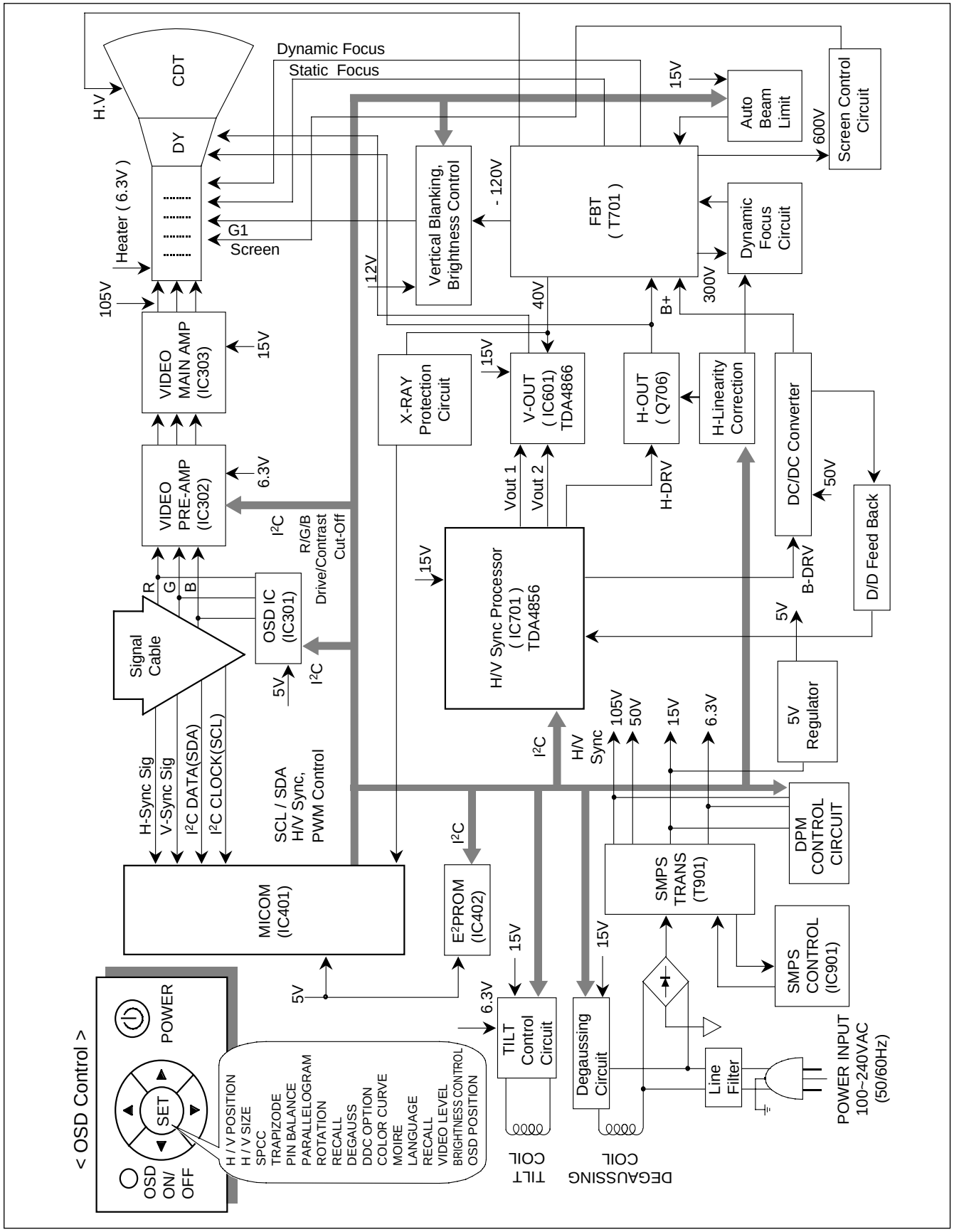
9. NO DEGAUSSING



10. NO TILT (NO ROTATION)



BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Line Filter & Associated Circuit.
This is used for suppressing noise of power input line flowing into the monitor and/or some noise generated in this monitor flowing out through the power input line.
That is to say, this circuit prevents interference between the monitor and other electric appliances.

2. Degauss Circuit & Coil.
The degauss circuit consists of the degaussing coil, the PTC(Positive Temperature Coefficient) thermistor(TH901), and the relay(RL901). This circuit eliminates abnormal color of the screen automatically by degaussing the shadow mask in the CRT during turning on the power switch. When you need to degauss in using the monitor, select DEGAUSS on the OSD menu.

3. SMPS(Switching Mode Power Supply).
This circuit is working of 90~264V AC(50/60Hz).
The operation procedure is as follows:

1) AC input voltage is rectified and smoothed by the bridge diodes (D901~D904) and the capacitor (C908).
2) The rectified voltage(DC) is applied to the primary coil of the transformer(T901).
3) The control IC(IC901) generates switching pulse to turn on and off the primary coil of the transformer (T901) repeatedly.
4) Depending on turn ratio of the transformer, the secondary voltages appear at the secondary coils of the transformer(T901).
5) These secondary voltages are rectified by each diode(D941, D951, D961, D971) and operate other circuit. (horizontal and vertical deflection, video amplifier, ...etc.)

4. X-ray Protection.
If the high voltage of the FBT reaches up to 29kV (abnormal state), Q807 operates and IC401(MICOM) pin 41 come to low level. Then MICOM control IC701 (Deflection controller) to stop Horizontal drive pulse and stop Horizontal Deflection.

5. Micom(Microprocessor) Circuit.
The operating procedure of Micom(Microprocessor) and its associated circuit is as follows:

1) H and V sync signal is supplied from the signal cable.
2) The Micom(IC401) distinguishes polarity and frequency of H and V sync.
3) The Micom sets operating mode and offers the controlled data. (H-size, H-position, V-size, ... etc.)
4) The controlled data of each mode is stored in itself.
5) User can adjust screen condition by each OSD function. The data of the adjusted condition is stored in EEPROM(IC402).

6. Horizontal and Vertical Oscillation.
This circuit generates the horizontal pulse and the vertical pulse by taking the H and V sync signal.
This circuit consists of the TDA4856(IC701) and the associated circuit.

7. D/D(DC to DC) Converter.
This circuit supplies DC voltage to the horizontal deflection output circuit by increasing DC 50V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

8. Side-Pincushion & Trapezoid Correction Cirucit.
This circuit improves the side-pincushion and the trapezoid distortion of the screen by mixing parabola and saw-tooth wave to output of the horizontal deflection D/D converter which is used for the supply voltage(B^+) of the deflection circuit.

9. Horizontal Deflection Output Circuit.
This circuit makes the horizontal deflection by supplying the saw-tooth current to the horizontal deflection yoke.

10. High Voltage Output & FBT(Flyback Transformer).
The high voltage output circuit is used for generating pulse to the primary coil of the FBT(Flyback Transformer (T701)). A boosted voltage(about 25.5kV) appears at the secondary of the FBT and it is supplied to the anode, focus, and screen voltage of the CRT.

11. H-Linearity Correction Circuit.
This circuit corrects the horizontal linearity for each horizontal sync frequency.

12. Vertical Output Circuit.
This circuit takes the vertical ramp wave from the TDA4856(IC701) and performs the vertical deflection by supplying the saw-tooth current to the vertical deflection yoke.

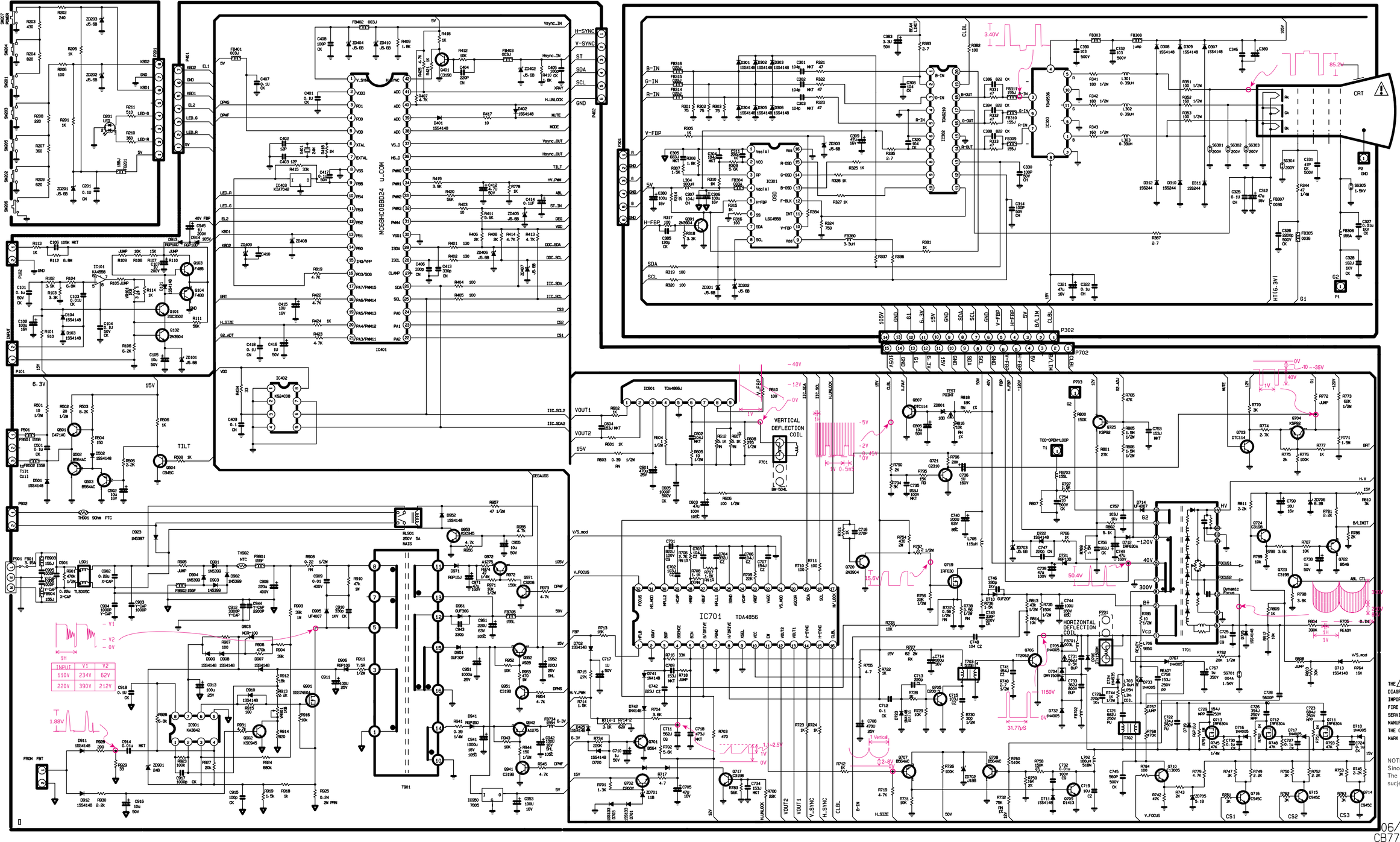
13. Dynamic Focus Output Circuit.
This circuit takes the horizontal and the vertical parabola waves from the TDA4856(IC701) and amplifies it to maintain constant focus on center and corners in the screen.

14. H & V Blanking and Brightness Control.
Blanking circuit eliminates retrace line by supplying negative pulse to the G1 of the CRT. And Brightness circuit is used for control of the screen brightness by changing DC level of the G1.

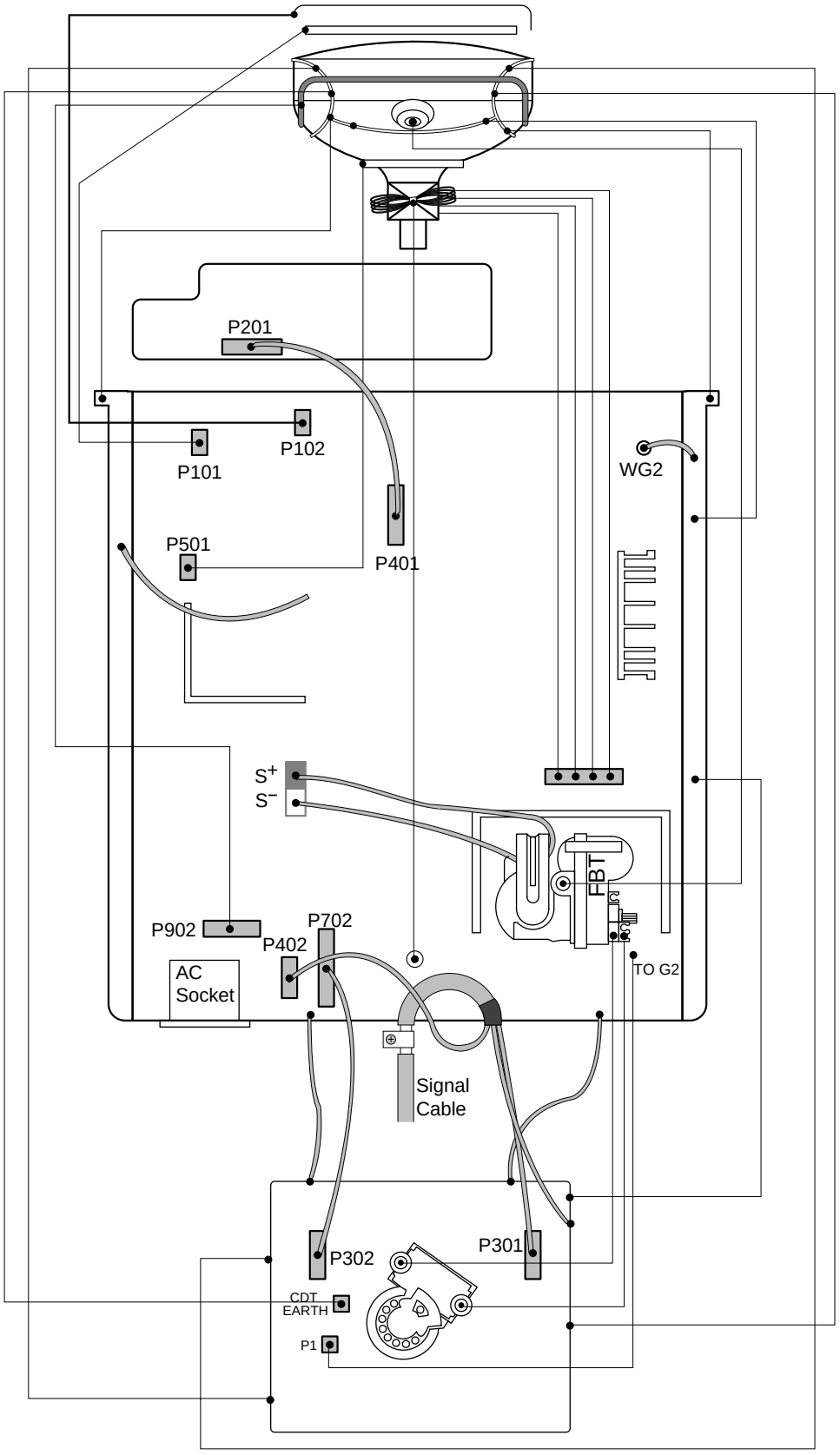
15. Image Rotation (Tilt) Circuit.
This circuit corrects the tilt of the screen by supplying the image rotation signal to the tilt coil which is attached near the deflection yoke of the CRT.

16. Video Pre-Amp Circuit.
This circuit amplifies the analog video signal from 0-0.7V to 0-4V. It is operated by taking the clamp, R, G, B drive and contrast signal from the Micom(IC401).

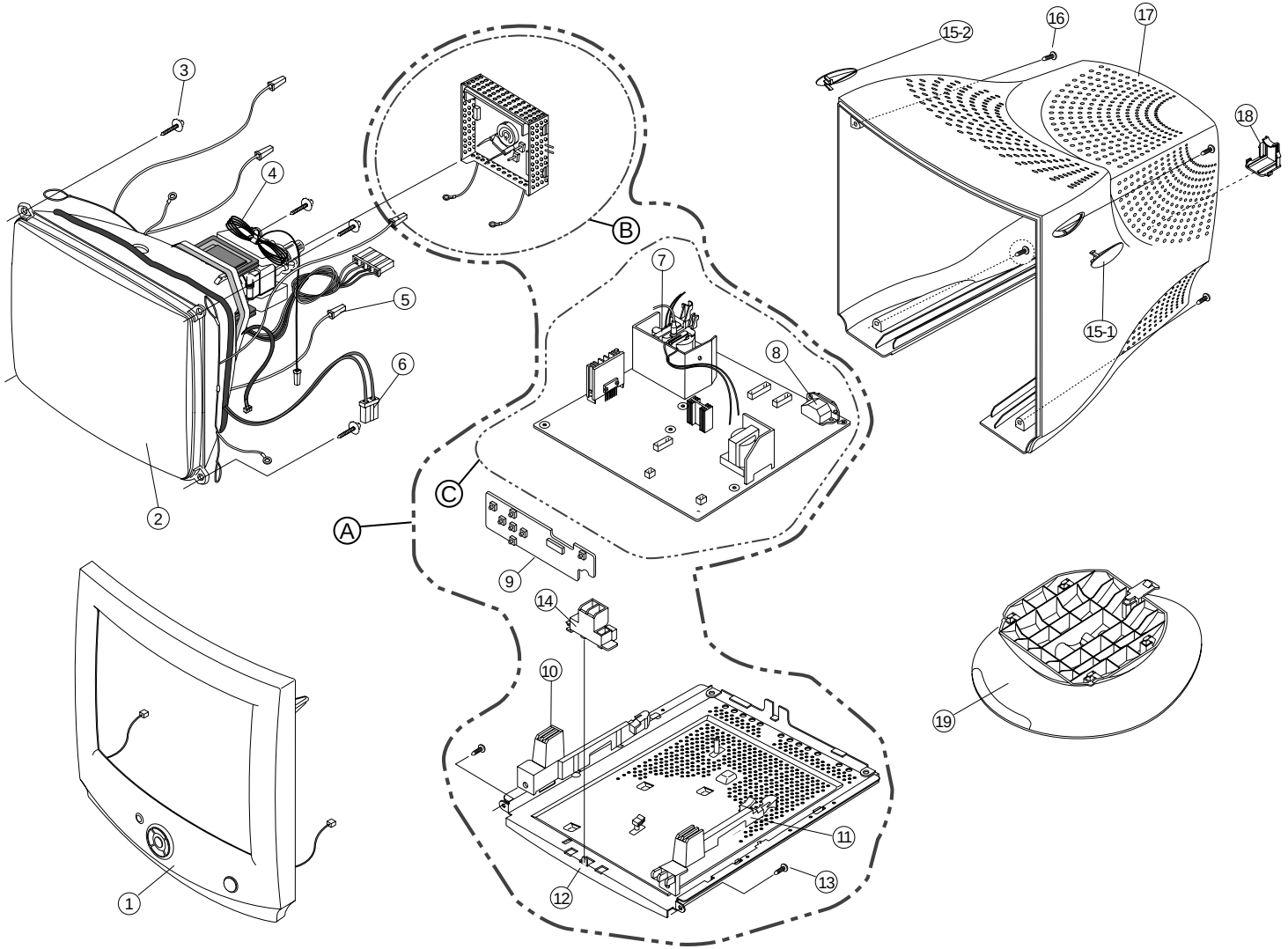
17. Video Output Amp Circuit.
This circuit amplifies the video signal which comes from the video pre-amp circuit and amplified it to applied the CRT cathode.


MCGBHC08BD24 U_COM
IC401
IC701 TDA4856
IC1001 KA3842
IC402 KS24C08
IC101 KA4558
IC1403 KIA7042
IC1501 TDA9850
IC1302 TDA9330
IC1303 TDA9836
IC1301 LSC4958
IC1650 7805
IC501 TDA4866J
T901
T701
T702
P101
P102
P201
P202
P302
P702
P401
P402
P501
P902
P903
P1
P2
G1
G2
CRT
VERTICAL DEFLECTION COIL
HORIZONTAL DEFLECTION COIL
TILT
BRT
H-SIZE
G2_ADJ
V_FOCUS
Dynamic Focus
FOCUS1
FOCUS2
B/LIMIT
ABL CTL
TCO-OPEN-LOOP
FROM FBT
H-SYNC
V-SYNC
ST
SDA
SCL
GND
XRAY
H_UNLOCK
MUTE
MODE
ABL
ST_IN
DEG
VDD
DDC_SDA
DDC_SCL
IIC_SDA
IIC_SCL
CS1
CS2
CS3
IIC_SCL2
IIC_SDA2
Vsync_IN
Hsync_IN
Vsync_OUT
Hsync_OUT
TILT
H/V_PWM
105V
15V
6.3V
5V
B+
HT(6.3V)
85.2V
3.40V
-40V
-12V
-120V
50.4V
15.6V
31.77μS
1150V
1 Vertical
1H
INPUT V1 V2
110V 234V 62V
220V 390V 212V
IMPORTANT SAFETY NOTICE
THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFATURES SPECFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.
NOTICE
Since this is a basic schematic diagram.
The value of components and some partial connection are suciect to be changed for improvement without notice.
06/12
CB775C

WIRING DIAGRAM



EXPLODED VIEW



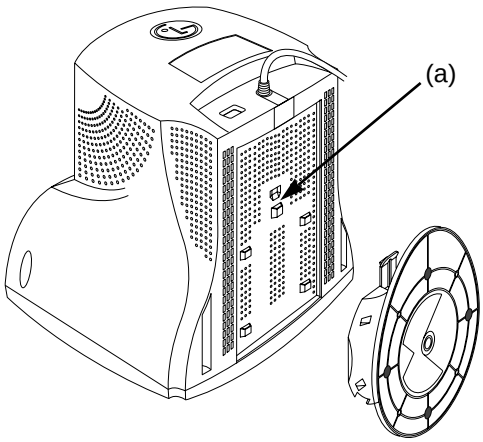
EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKC029K	CABINET ASSY KCB775 BRAND C026 303G **FOR S/W 775N (CB775C-NA)**
	3091TKC029X	CABINET ASSY KCB775C BRAND C026 **FOR S/W 775E (CB775C-EA)**
2	2423GC0B89Z	CDT SET, M41LFQ803X 46NLAA **FOR NORTHERN HEMISPHERE**
	2423GC0B88G	CDT SET, M41LFQ803X 46SLAA **FOR SOUTHERN HEMISPHERE**
	2423GC0B88H	CDT SET, M41LFQ803X 46RLAA **FOR EQUATORIAL**
3	339-002H	SCREW ASSY PHP+5*20(FZMY)+GW18 NEW TYPE #CDT FIX
4	6631T11005D	CONNECTOR ASSY, 1P W-T 520MM UL 1015 AWG 22 CB775C
5	6868T17004E	CDT EARTH, CB775C TIN WIRE BRAID(128)
6	6140TC3001A	COIL,DEGAUSSING, 1090MM 14.3 OHM 0.45MM 120T 17"
7	6174Z-1031E	FBT (FLY BACK TRANSFORMER), FMMTC71-M1031E MNT (LIM SANG IL)
8	6620TKB002A	SOCKET (CIRC),POWER BCP-03A-3 BAE EUN AC UNIVERSAL 3PIN BLACK
9	6871TST160B	PWB(PCB) ASSY,SUB KCB775C JLJMT BRAND CONTROL TOTAL
10	4810TKK126A	BRACKET, CB775C GUIDE 303S,LEFT
11	4810TKK125A	BRACKET, CB775C GUIDE 303S
12	4950TKS150D	METAL SHIELD BOTTOM KCB775C (PEM NUT) CKD
13	332-102F	SCREW, PTP+4*20BP(MSWR/FZMY)
14	4810TKK084A	BRACKET, CB775 HOLDER PCB
15-1	3550TKK055A	COVER CB775 SCREW (RIGHT)
15-2	3550TKK055B	COVER CB775 SCREW (LEFT)
16	332-102F	SCREW, PTP+4*20BP(MSWR/FZMY)
17	3809TKC014C	BACK COVER ASSY, KCB775 C015 "A"CORE,303G,85964 **FOR S/W 775N (CB775C-NA)**
	3809TKC014D	BACK COVER ASSY, KCB775 C015 "A"CORE,PC+ABS,85964 **FOR S/W 775E (CB775C-EA)**
18	3550TKK056A	COVER CB775 PIECE REAR
19	3043TKK036C	TILT SWIVEL ASSY, KCB775 T030,B027 60HR,85964 **FOR S/W 775N (CB775C-NA)**
	3043TKK036D	TILT SWIVEL ASSY, KCB775 LOCAL 60HR,85964 **FOR S/W 775E (CB775C-EA)**
A	3313T17041C	MAIN TOTAL ASSY, KCB775C BRAND CA-80 **FOR S/W 775E (CB775C-EA)**
	3313T17041G	MAIN TOTAL ASSY, KCB775C BRAND CA-80 **FOR S/W 775N (CB775C-NA)_AUSTRALIA**
	3313T17041B	MAIN TOTAL ASSY, KCB775C BRAND CA-80 **FOR S/W 775N (CB775C-NA)**
B	6871TVT162C	PWB(PCB) ASSY,VIDEO, KCB775C XLTET BRAND TC099 TOTAL **FOR S/W 775N (CB775C-NA)**
	6871TVT162B	PWB(PCB) ASSY,VIDEO, KCB775C JLJMT BRAND VIDEO TOTAL **FOR S/W 775E (CB775C-EA)**
C	6871TMT162C	PWB(PCB) ASSY,MAIN, KCB775C XLTET BRAND CA-80 **FOR S/W 775E (CB775C-EA)**
	6871TMT162G	PWB(PCB) ASSY,MAIN, KCB775C HLAMD BRAND CA-80 **FOR S/W 775N (CB775C-NA) _AUSTRALIA**
	6871TMT162B	PWB(PCB) ASSY,MAIN, KCB775C JLJMT BRAND CA-80 **FOR S/W 775N (CB775C-NA)**

DISASSEMBLY

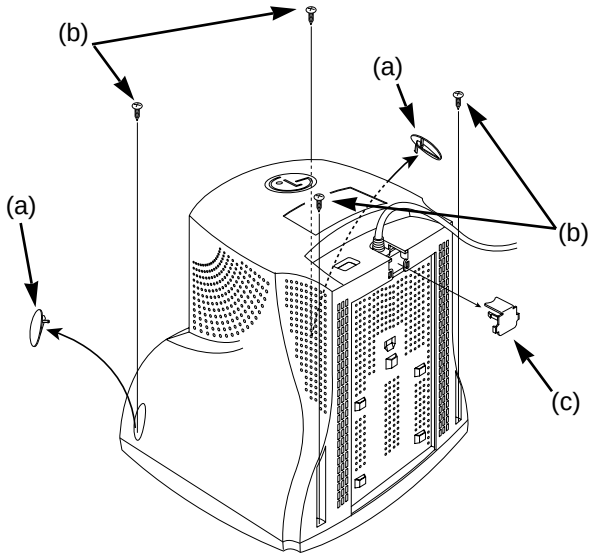
1. TILT/SWIVEL REMOVAL

1) Set the monitor face downward.
2) Pressing the latch (a), carefully remove the Tilt/Swivel by pulling it upward.



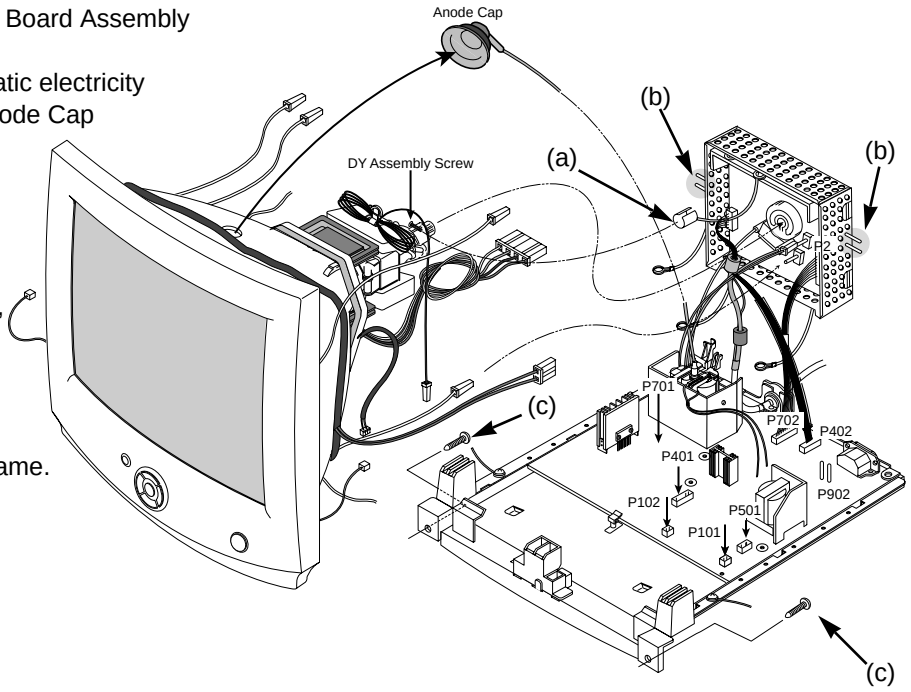
2. BACK COVER REMOVAL

1) Remove two screw caps (a).
2) Remove four screws (b).
3) Remove signal cable cap (c).
4) Slide the Back Cover away from the Front Cabinet of the monitor.



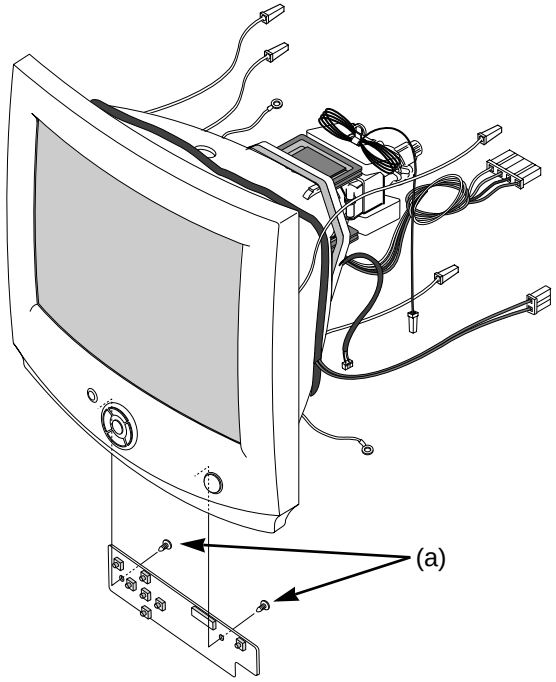
3. TOTAL CHASSIS ASSEMBLY REMOVAL

1) Remove connector (a) from the DY Assembly screw.
2) Disconnect P2(CDT EATH) and four pins (b) from the Video PCB.
3) Carefully separate the CDT Board Assembly from the CDT neck.
4) Discharge the remaining static electricity by shorting between the Anode Cap and the CDT ground.
5) Disconnect the Anode Cap from the CDT.
6) Disconnect P902 (Degaussing pin), P701 (DY pin), P101, P102, P401, and P501 from the Main PCB.
7) Remove two screws (c).
8) Remove the Total Chassis Assembly from the Main Frame.



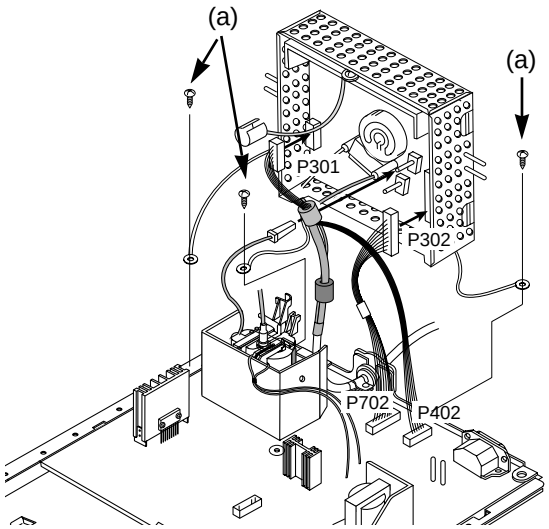
4. CONTROL PCB ASSEMBLY REMOVAL

1) Remove two screws (a).
2) Remove the Control PCB Assembly from the Front Cabinet.



5. VIDEO PCB ASSEMBLY REMOVAL

1) Disconnect P301, P302 from the Video PCB.
2) Remove three screws (a).
3) Remove the Video PCB Assembly.



6. BOTTOM BRACKET REMOVAL

1) Remove six screws (a).
2) Remove the Bottom Bracket.